

What is claimed is:

1. A radiation image obtaining system comprising:

a radiation source;

5 a radiation image detector for recording a radiation image of a subject by irradiation thereof by radiation emitted from a radiation source, which has passed through the subject; and

a grid provided between the radiation image detector and the radiation source, parallel to a recording surface of the
10 radiation image detector;

an angle/position detection member provided between the radiation source and the radiation image detector, having at least two detection portions having a transmittance rate with respect to radiation emitted from the radiation source
15 different from their surroundings, which are provided at predetermined positions with respect to the recording surface; and

an angle/position calculating means for calculating a position of the radiation source with respect to the recording
20 surface and/or an angle of a central axis of the radiation emitted from the radiation source with respect to the recording surface; wherein

at least two lines, which pass through positions of images of the detection portions, recorded in the radiation image
25 detector by irradiation thereof by the radiation which has passed through the detection portions, and the predetermined

positions of the detection portions, are obtained; and

the angle/position calculating means calculates the position of the radiation source with respect to the recording surface and/or the angle of the central axis of the radiation emitted from the radiation source with respect to the recording surface based on distances between an intersection of the at least two lines and the predetermined positions of the detection portions, or distances between the position of the intersection of the at least two lines and the positions of the images of the detection portions.

2. A radiation image obtaining system as defined in claim 1, wherein:

the images of the detection portions are recorded in the recording surface of the radiation image detector at a portion of the recording surface outside a region in which the radiation image of the subject is recorded.

3. A radiation image obtaining system as defined in claim 1, further comprising:

a position adjusting means for adjusting the position of the radiation source or the radiation image detector, in the case that the position of the radiation source with respect to the recording surface, calculated by the angle/position calculating means, differs from a predetermined position of the radiation source with respect to the recording surface, so that the radiation source is positioned at the predetermined position with respect to the recording surface.

4. A radiation image obtaining system as defined in claim 1, further comprising:

an angle adjusting means for adjusting the angle of the central axis of the radiation with respect to the recording surface, in the case that the angle of the central axis of the radiation with respect to the recording surface, calculated by the angle/position calculating means, is not substantially perpendicular, so that the angle of the central axis of the radiation becomes substantially perpendicular with respect to the recording surface.

5. A radiation image obtaining system as defined in claim 3, further comprising:

an angle adjusting means for adjusting the angle of the central axis of the radiation with respect to the recording surface, in the case that the angle of the central axis of the radiation with respect to the recording surface, calculated by the angle/position calculating means, is not substantially perpendicular, so that the angle of the central axis of the radiation becomes substantially perpendicular with respect to the recording surface.

6. A radiation image obtaining system as defined in claim 1, further comprising:

an irradiation terminating means for terminating irradiation of radiation by the radiation source, in the case that the position of the radiation source with respect to the recording surface, calculated by the angle/position

calculating means, is not within a predetermined allowable range.

7. A radiation image obtaining system as defined in claim 1, further comprising:

5 an irradiation terminating means for terminating irradiation of radiation by the radiation source, in the case that the angle of the central axis of the radiation with respect to the recording surface, calculated by the angle/position calculating means, is not within a predetermined allowable
10 range.

8. A radiation image obtaining system as defined in claim 1, wherein:

 the amount of radiation irradiated on the angle/position detection member is less than or equal to $1/5$ the amount of
15 radiation irradiated during obtainment of the radiation image of the subject.

 9. A radiation image detector[✓] for recording a radiation image of a subject by irradiation thereof by radiation emitted from a radiation source, which has passed through the subject
20 and a grid, which is provided between the radiation image detector and the radiation source, parallel to a recording surface of the radiation image detector, comprising:

 an angle/position detection member provided between the radiation source and the radiation image detector, having at
25 least two detection portions having a transmittance rate with respect to radiation emitted from the radiation source

different from their surroundings, which are provided at predetermined positions with respect to the recording surface; and

an angle/position calculating means for calculating a
5 position of the radiation source with respect to the recording surface and/or an angle of a central axis of the radiation emitted from the radiation source with respect to the recording surface; wherein

at least two lines, which pass through positions of images
10 of the detection portions, recorded in the radiation image detector by irradiation thereof by the radiation which has passed through the detection portions, and the predetermined positions of the detection portions, are obtained; and

the angle/position calculating means calculates the
15 position of the radiation source with respect to the recording surface and/or the angle of the central axis of the radiation emitted from the radiation source with respect to the recording surface based on distances between an intersection of the at least two lines and the predetermined positions of the detection
20 portions, or distances between the position of the intersection of the at least two lines and the positions of the images of the detection portions.

10. A radiation image detector as defined in claim 9, wherein:

25 the images of the detection portions are recorded in the recording surface of the radiation image detector at a portion

of the recording surface outside a region in which the radiation image of the subject is recorded.

11. A radiation image detector as defined in claim 9, further comprising:

5 a position adjusting means for adjusting the position of the radiation source or the radiation image detector, in the case that the position of the radiation source with respect to the recording surface, calculated by the angle/position calculating means, differs from a predetermined position of the
10 radiation source with respect to the recording surface, so that the radiation source is positioned at the predetermined position with respect to the recording surface.

12. A radiation image detector as defined in claim 9, further comprising:

15 an angle adjusting means for adjusting the angle of the central axis of the radiation with respect to the recording surface, in the case that the angle of the central axis of the radiation with respect to the recording surface, calculated by the angle/position calculating means, is not substantially
20 perpendicular, so that the angle of the central axis of the radiation becomes substantially perpendicular with respect to the recording surface.

13. A radiation image detector as defined in claim 11, further comprising:

25 an angle adjusting means for adjusting the angle of the central axis of the radiation with respect to the recording

surface, in the case that the angle of the central axis of the radiation with respect to the recording surface, calculated by the angle/position calculating means, is not substantially perpendicular, so that the angle of the central axis of the radiation becomes substantially perpendicular with respect to the recording surface.

14. A radiation image detector as defined in claim 9, further comprising:

an irradiation terminating means for terminating irradiation of radiation by the radiation source, in the case that the position of the radiation source with respect to the recording surface, calculated by the angle/position calculating means, is not within a predetermined allowable range.

15. A radiation image detector as defined in claim 9, further comprising:

an irradiation terminating means for terminating irradiation of radiation by the radiation source, in the case that the angle of the central axis of the radiation with respect to the recording surface, calculated by the angle/position calculating means, is not within a predetermined allowable range.